

Application No. 10/033,809  
Amendment Dated: March 21, 2005  
Reply to the Final Office Action of January 27, 2005

### **REMARKS/ARGUMENTS**

Claims 1, 3, 4, 17, 19, 20, 33, 35, and 36 have been amended. No new claims have been added. No claims have been canceled. Claims 1-37 remain pending in this application. Reexamination and reconsideration of the application as amended are respectfully requested. There are no claim objections.

#### **Claim Rejections under 35 U.S.C. § 112**

Claims 1-37 are rejected under 35 U.S.C. § 112, first paragraph. Examiner Le has indicated that, “[t]he specification does not provide enough support for the claimed ‘bypassing said general-purpose file system by executing said asynchronous direct I/O access commands by use of a different file system’.” Applicant thanks Examiner Le for holding an interview on March 9, 2005. Applicants respectfully disagree with Examiner’s rejection.

Applicants respectfully submit that the specification supports ‘bypassing said general-purpose file system by executing said asynchronous direct I/O access commands by use of a different file system’.” As stated in paragraph 15, “An implementation of the present invention introduces the use of **direct I/O operations** with applications ported for operation with **general-purpose file systems** that do not support direct I/O operations. The direct I/O operations used by the present invention and directed to **disk volumes** enable faster application I/O operations than queued I/O operations,

20 for certain complex software applications. An implementation of the present invention uses direct I/O operations to **support asynchronous I/O access to disk volumes instead of synchronous I/O access to disk volumes**, and to optimally process random I/O requests.” [emphasis added]

Embodiments of applicants’ invention improve disk I/O performance when porting a complex application that uses asynchronous, direct I/O commands to a target computer system that does not  
25 support those commands.

Therefore, the reference from paragraph 15 teaches the use of direct I/O operations that **support asynchronous I/O access to disk volumes instead of I/O access commands supported by a general-purpose file system**. As described in paragraph 6, “Disk volumes are units of data storage  
30 that typically include data and the information used to access and manipulate the data. **Disk volumes may be used to store a file system** and information necessary to manipulate the file system.” The disk volume may be used to store a file system different from the general-purpose file system. Therefore, the specification shows support for ‘bypassing said general-purpose file system by executing said asynchronous direct I/O access commands by use of a different file system’.

35 Applicants respectfully traverse Examiner’s rejection

For the purpose of clarifying Claims 1, 3, 4, 17, 19, 20, 33, 35, and 36, all references to a “general-purpose file system” and to “a different file system” have been removed.

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Claims 1, 17, and 33 are further amended to clarify that the bypassing of file systems, such as  
40 the OS/390 Unix System Services are achieved in an embodiment of the present invention by use  
of the application programming interfaces and by a shell interface. Claims 1, 17, and 33 now include  
reference to a “application programming interfaces and a shell interface that enable bypassing I/O  
operations of said file system”. The application programming interfaces and the shell interface are  
taught in the Specification. For example, in paragraph 14, “OS/390 UNIX provides support for APIs  
45 and an interactive shell interface. The OS/390 APIs enable a user or program, such as a database,  
to request OS/390 services and OS/390 UNIX System Services. The shell interface is an execution  
environment that services interactive requests from users and batch requests that are included in  
computer programs, such as a database.”

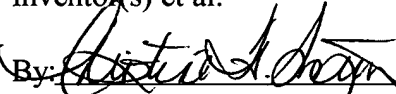
50 Therefore, the amendment to Claims 1, 3, 4, 17, 19, 20, 33, 35, and 36 are supported in the  
Specification. Claim 2 depends on Claim 1, Claims 5-16 depend on Claim 4, Claim 18 depends on  
Claim 17, Claims 21-32 depend on Claim 19 and Claim 37 depends on Claim 36. Therefore the  
amended Claims 1,3,5,17, 19, 20, 33, 35 and 36; and the dependent claims thereof are supported by  
the specification and in condition for allowance .

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### Conclusion

Applicant therefore respectfully requests that the Examiner reconsider all currently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this Application, the Examiner is invited to telephone the undersigned at the number provided. Prompt and favorable consideration of this Response is hereby solicited.

Respectfully submitted,  
Inventor(s) et al.

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